

Figure 1

App No.: 10/698,212 Docket No.: 20910/0206210-US0 Inventor: Sunay Tripathi et al.
Title: METHODS AND APPARATUS FOR COORDINATING

THE METHODS AND APPARATUS FOR COORDINATING PROCESSING OF NETWORK CONNECTIONS, etc.

REPLACEMENT SHEET

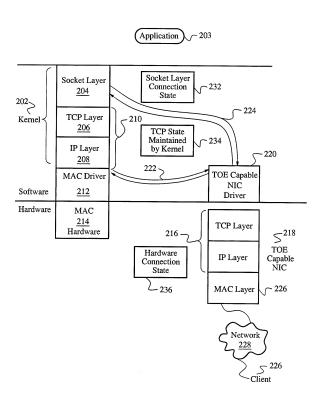


Figure 2

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## **Data Structures**

- A. Data structures maintained by socket layer:
- Connection state maintained by socket layer (SONODE): Socket state information.

SOCKET LAYER CONNECTION IDENTIFIER
HARDWARE CONNECTION IDENTIFIER
POINTER TO CONNECTION STATE MAINTAINED BY KERNEL (\*
CONNT)

2. Connection state table maintained by socket layer:

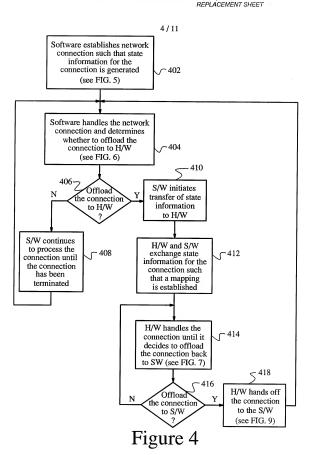
Identifier	State information
A	Pointer to socket layer connection state
	•
•	

- B. Connection state maintained by kernel (CONNT): TCP/IP state information KERNEL CONNECTION IDENTIFIER
  - Minimum state necessary to offload a connection (MIN\_TCP\_T): Local (server) and remote (client) IP addresses and ports Send/receive sequence numbers of packets for the connection Any round trip estimates for each packet Congestion window, slow start
- C. Hardware connection state maintained by NIC (HW\_CONN\_T): NIC connection state

HARDWARE CONNECTION IDENTIFIER (HW\_CONNID)
POINTER TO SOCKET STATE INFORMATION (\*SONODE)

Minimum state necessary to offload a connection (MIN\_TCP\_T):
 Local (server) and remote (client) IP addresses and ports
 Send/receive sequence numbers of packets for the connection
 Any round trip estimates for each packet
 Congestion window, slow start

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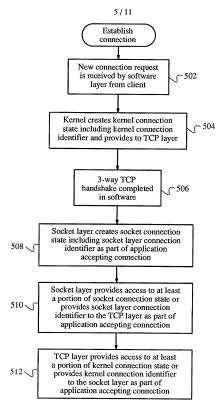


Figure 5

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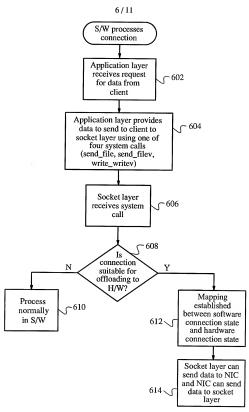


Figure 6

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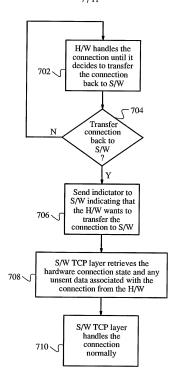


Figure 7

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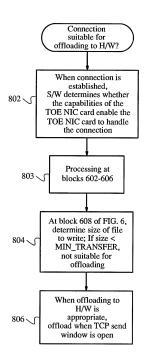


Figure 8

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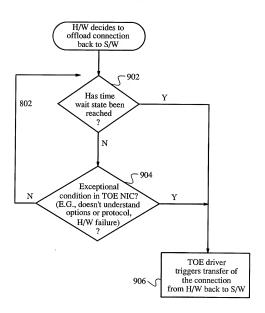


Figure 9

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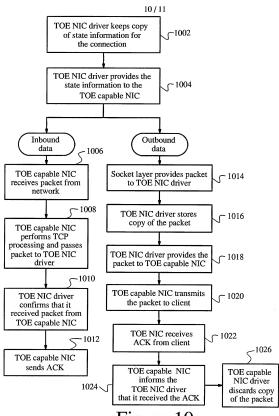


Figure 10

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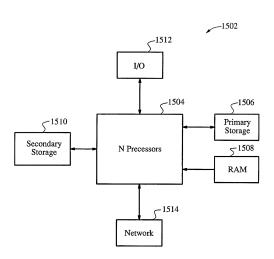


Figure 11